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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Louis Robert Litwin

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EXAMINER

BALAOING, ARIEL A

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,877	<b>Applicant(s)</b> LITWIN ET AL.	
	<b>Examiner</b> ARIEL BALAOING	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 12, 13 and 20 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, 14-19, drawn to determination of a duration of processing a second synchronization channel, classified in class 370, subclass 350.
  - II. Claims 12, 13, and 20, drawn to processing a synchronization channel using an indexed table to determine a number of received frames, wherein said signal represents a condition of the wireless communication channel, classified in class 370, subclass 342.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the subcombination determines a processing based on an indexed table of signals representing a channel condition. The subcombination has separate utility such as synchronization without adaptive control of a duration of processing a secondary channel.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all

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the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. During a telephone conversation with Joseph Opalach (Reg No. 36,229) on 09/17/2008 a provisional election was made without traverse to prosecute the invention

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of Group I, claims 1-11, 14-19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12, 13, and 20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by NEW (US 2003/0045299 A1).

Regarding claim 14, NEW discloses Universal Mobile Telephone System (UMTS) equipment (abstract) comprising: a front end for receiving a wireless signal representing a sequence of frames and for providing a stream of received samples therefrom (paragraph 25, 31, 44, 45; primary synchronization code); and a processor for

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adaptively controlling a duration for performing frame synchronization on the received samples (Figure 3; abstract; paragraph 13, 26, 33-34, 39, 44, 45; duration of the processing of secondary synchronization codes depend on verification at various stages of synchronization).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. NEW further discloses further comprising: a primary synchronization element operative on the received samples for acquiring slot synchronization to a primary synchronization signal of the received wireless signal and for providing a peak correlation value associated therewith (paragraph 29, 31, 33); and a secondary synchronization element operative on the received samples for acquiring frame synchronization to a secondary synchronization signal of the received wireless signal (paragraph 29, 33, 34); wherein the processor determines a number of frames for the secondary synchronization element to process for acquiring frame synchronization as a function of the peak correlation value (paragraph 34, 40).

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. NEW further discloses wherein the processor determines the number of frames for the secondary synchronization element to process for acquiring frame synchronization as a function of the peak correlation value and at least one other correlation value (paragraph 13, 25, 29, 31, 33, 34; slot and frame peaks).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. NEW further discloses further comprising: a

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primary synchronization element operative on the received samples for acquiring slot synchronization to a primary synchronization signal of the received wireless signal (paragraph 25, 31); and a secondary synchronization element operative on the received samples subsequent to slot synchronization for providing a possible scrambling code group comprising an M symbol sequence (paragraph 26, 33, 34); wherein the processor (a) determines a number of matches between the M symbol sequence of the possible scrambling code group and each scrambling code group of a set of scrambling code groups, and (b) if the determined number of matches for at-least-one scrambling code group of the set of scrambling code groups exceeds a predefined value, selects the at-least-one scrambling code group as the scrambling code group for use in acquiring frame synchronization (paragraph 26-29, 33, 34, 35, 39).

Regarding claim 18, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. NEW further discloses wherein the processor halts further processing of received frames in the received wireless signal if the determined number of matches for at-least-one scrambling code group exceeds the predefined value (paragraph 26-29, 33, 34; acquisition successful providing at least one code group meets the selection requirement).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the



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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-11, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over NEW (US 2003/0045299 A1) in view of MATHEW et al (US 2004/0161020 A1).

Regarding claim 1, NEW discloses a method for use in a wireless receiver (abstract), comprising: processing a first synchronization code of a received wireless signal to acquire slot synchronization (**302**-Figure 3; paragraph 25, 31; primary synchronization code); and adaptively controlling a duration for processing a second synchronization code of the received wireless signal to acquire frame synchronization

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(306-Figure 3; abstract; paragraph 13, 26, 33-34, 39; duration of the processing of secondary synchronization codes depend on verification at various stages of synchronization). Although NEW discloses the use of a synchronization channel containing primary synchronization codes and secondary synchronization codes, NEW does not expressly disclose that said codes are provided over a first and secondary channel. MATHEW discloses providing primary synchronization codes over a first channel and secondary synchronization codes over a second channel (Figure 3; paragraph 33-35). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify NEW to include the teachings of MATHEW, since providing primary synchronization codes and secondary synchronization codes over primary and secondary subchannels of a synchronization channel is standard and conventional in the art. Further evidence can be seen in the applicant's disclosure of the prior art (see paragraph 3 of the specification).

Regarding claim 2, see the rejections of the prior art regarding the subject matter this claim is dependent upon. The combination of NEW and MATHEW further discloses wherein the first synchronization channel is a primary synchronization subchannel and the second synchronization channel is a secondary synchronization subchannel of a universal mobile telephone system [W-CDMA] (NEW - paragraph 25, 26; MATHEW – paragraph 33-35; It is further noted that the use of W-CDMA is conventional in universal mobile telephone systems).

Regarding claim 3, see the rejections of the prior art regarding the subject matter this claim is dependent upon. NEW further discloses wherein the step of processing the

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first synchronization channel includes the step of providing a peak correlation value associated with the first synchronization channel (paragraph 29, 31, 33).

Regarding claim 4, see the rejections of the prior art regarding the subject matter this claim is dependent upon. The combination of NEW and MATHEW further discloses wherein the adaptively controlling step includes the steps of: determining a number of received frames of the received wireless signal as a function of the peak correlation value (NEW - paragraph 29, 33, 34; MATHEW- paragraph 37-39); and processing the second synchronization channel over the determined number of frames to acquire frame synchronization (NEW - paragraph 34, 40; MATHEW – paragraph 37-39).

Regarding claim 5, see the rejections of the prior art regarding the subject matter this claim is dependent upon. NEW further discloses wherein the processing the second synchronization channel includes the steps of: comparing an estimated received sequence to each one of a plurality of possible received sequences, each sequence including a plurality of symbols (**306**, paragraph 26, 33, 34; synchronization code represents a sequence of symbols); and after each comparison to one of the plurality of possible sequences, identifying one of the plurality of possible sequences as a possible best match (**308** paragraph 26, 33, 34); wherein, in the comparing step, if a number of mismatches for a current comparison is greater than or equal to a number of mismatches associated with the possible best match, the current comparison is abandoned and a new comparison is begun (**330, 336** paragraph 26, 33, 34, 40; predetermined number of verifications searches to be performed).

Regarding claim 6, see the rejections of the prior art regarding the subject matter this claim is dependent upon. The combination of NEW and MATHEW further discloses wherein the step of processing the first synchronization channel includes the step of providing multiple correlation values, including the peak correlation value, associated with the first synchronization channel (NEW - Figure 2; paragraph 29, 31; MATHEW – Figure 4; paragraph 37-39).

Regarding claim 7, see the rejections of the prior art regarding the subject matter this claim is dependent upon. The combination of NEW and MATHEW further discloses wherein the adaptively controlling step includes the steps of: determining a number of received frames of the received wireless signal as a function of the peak correlation value and at least one other value (NEW - paragraph 13, 25, 29, 31, 33, 34; slot and frame peaks; MATHEW – Figure 4; paragraph 37-39); and processing the second synchronization channel over the determined number of frames to acquire frame synchronization (NEW - paragraph 29-31, 34; MATHEW – Figure 4; paragraph 37-39).

Regarding claim 8, see the rejections of the prior art regarding the subject matter this claim is dependent upon. NEW further discloses wherein the step of processing the second synchronization channel includes the steps of: correlating the received wireless signal to provide an estimate of a received sequence over the determined number of frames (**306**, paragraph 26, 33, 34; synchronization code represents a sequence of symbols); and comparing the estimated received sequence to each one of a plurality of expected received sequences to determine a number of matches thereto (**308** paragraph 26, 33, 34); and if the number of matches to at least one of the plurality of

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expected received sequences exceeds a predefined threshold, breaking out of the step of processing the second synchronization channel (**330**, **336** paragraph 26, 33, 34, 40; predetermined number of verifications searches to be performed).

Regarding claim 9, see the rejections of the prior art regarding the subject matter this claim is dependent upon. The combination of NEW and MATHEW further discloses wherein the adaptively controlling step includes the steps of: processing the second synchronization channel to form cumulative data representing a possible scrambling code group comprising an M symbol sequence(NEW - paragraph 26-29, 33, 34; MATHEW – paragraph 35, 39 and TABLE 2); determining a number of matches between the M symbol sequence of the possible scrambling code group and each scrambling code group of a set of scrambling code groups (NEW - paragraph 26-29, 33, 34; MATHEW – paragraph 35, 39 and TABLE 2); and if the determined number of matches for at-least-one scrambling code group of the set of scrambling code groups exceeds a predefined value, selecting the at-least-one scrambling code group as the scrambling code group for use in acquiring frame synchronization (NEW - paragraph 26-29, 33, 34; MATHEW – paragraph 35, 39 and TABLE 2).

Regarding claim 10, see the rejections of the prior art regarding the subject matter this claim is dependent upon. NEW further discloses wherein the selecting step includes the step of halting further processing of received frames in the received wireless signal (**336**-Figure 3).

Regarding claim 11, see the rejections of the prior art regarding the subject matter this claim is dependent upon. The combination of NEW and MATHEW further

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discloses wherein the selecting step includes the step of: if more than one scrambling code group of the scrambling code group set exceeds the determined number of matches, selecting the scrambling code group with the most number of matches (MATHEW – Figure 4; paragraph 37-39; group providing maximum correlation is chosen from groups above peak threshold).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, NEW does not expressly disclose wherein if more than one scrambling code group of the scrambling code group set exceeds the determined number of matches, the processor selects the scrambling code group with the most number of matches. In the same field of endeavor, MATHEW discloses wherein if more than one scrambling code group of a scrambling code group set exceeds a determined number of matches, the processor selects the scrambling code group with the most number of matches (Figure 4; paragraph 37-39; group providing maximum correlation is chosen from groups above peak threshold). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify NEW to include the teachings of MATHEW, since MATHEW states that such a modification would provide lower cross correlation between various devices within the system.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

SRIRAM (US 6,665,277) – Comma free codes for fast cell search

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARIEL BALAOING whose telephone number is (571)272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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